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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/580,722	05/24/2006	Yucheng Li	CN03 0036 US1	6472
65913	7590	07/07/2009	EXAMINER	
NXP, B.V. NXP INTELLECTUAL PROPERTY & LICENSING M/S41-SJ 1109 MCKAY DRIVE SAN JOSE, CA 95131			SARWAR, BABAR	
			ART UNIT	PAPER NUMBER
			2617	
			NOTIFICATION DATE	DELIVERY MODE
			07/07/2009	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ip.department.us@nxp.com

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/580,722	LI ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	BABAR SARWAR	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 02 April 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments filed **04/22/2009** have been fully considered but they are not persuasive.
2. **Claims 1, 3-5, 7, and 10** have been amended.
3. **Claims 1-24** are currently pending.
4. The applicant argued features wherein method is employed for supporting downlink JD (joint detection) in a TDD CDMA communication network system, comprising judging whether the CAI (code allocation information) in a downlink timeslot will change in the next TTI (transmission time interval); inserting the changed CAI as a specific control information into a specified field in the traffic burst in the downlink timeslot corresponding to current TTI if the CAI will change; sending the traffic burst containing the specific control information to each UE (user equipment) in the downlink timeslot via a downlink channel.

Jechoux discloses a method of implementing an advance detection algorithm such as JD (joint detection) in a TDD CDMA communication network system. With such an algorithm implemented, data bits from all users transmitting in a timeslot are simultaneously decoded and decided at receiver-side. For optimal performance of the algorithm, the receiver needs to know several parameters, especially spreading codes and channel profiles of all users which are present in a particular timeslot. Generally, when such an algorithm is implemented at a base station-side, the base station can have knowledge of the allocated spreading codes because the radio access network to

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which it belongs controls their usage. Thus Jechoux shows the limitation “judging whether the CAI (code allocation information) in a downlink timeslot will change in the next TTI (transmission time interval)”. Further in communicating to each mobile station all spreading codes which are currently used by all users’ signals present in one particular timeslot. This is practicable only if this signaling can be done fast and with only marginal delay. Jechoux further discloses a method to provide a mobile station with ability to determine the transmission parameters, for example the spreading codes, that have been allocated to the other user's signals simultaneously present in the same timeslot in such a way that this method is employed fast and with minimum delay. Thus Jechoux shows the limitation “inserting the changed CAI as specific control information into a specified field in the traffic burst in the downlink timeslot corresponding to current TTI if the CAI will change; sending the traffic burst containing the specific control information to each UE (user equipment) in the downlink timeslot via a downlink channel”.

### ***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

**Claims 1-9, 16-20 are rejected under 35 U.S.C. 102 (e) as being anticipated by Jechoux et al. (US 2007/0030885 A1), hereinafter referenced as Jec.**

Consider **claim 1**, Jec discloses a method for supporting downlink JD (joint detection) in a TDD CDMA communication network system (**Para 0015, where Jec discloses that JD (joint detection) is employed to retrieve the user's signal**); judging whether the CAI (code allocation information) in a downlink timeslot will change in the next TTI (transmission time interval) (**Para 0016, where Jec discloses that the base station has knowledge of allocated spreading codes, therefore judging if the CAI (code allocation information) in a downlink timeslot will change in the next TTI**); inserting the changed CAI as a specific control information into a specified field in the traffic burst in the downlink timeslot corresponding to current TTI if the CAI will change (**Para 0019, where Jec discloses that in communicating to each mobile station all spreading codes which are currently used by all users' signals present in one particular timeslot and signaling is done fast with only marginal delay i.e. the mobile stations adjusting to the signaling environment accordingly**); and sending the traffic burst containing the specific control information to each UE (user equipment) in the downlink timeslot via a downlink channel (**Para 0015-0016, where Jec discloses that the base station has knowledge of allocated spreading codes, receiver knows spreading codes and channel profiles therefore sending the traffic burst containing the specific control information to each UE (user equipment)**)).

Consider **claim 2**, Jec discloses everything claimed as implemented above (see claim 1). In addition, Jec discloses that when establishing connection with a UE, the network system sends the initial CAI to the UE (**Para 0019, where Jec discloses that in communicating to each mobile station all spreading codes which are currently used by all users' signals present in one particular timeslot**).

Consider **claim 3**, Jec discloses everything claimed as implemented above (see claim 2). In addition, Jec discloses judging that the CAI changes if at least one active UE leaves the downlink timeslot, reclaiming the spreading code resource released by the UE; wherein the changed CAI of inserting is the CAI after the spreading code resource is reclaimed (**Para 0016, where Jec discloses that the base station has knowledge of allocated spreading codes**).

Consider **claim 4**, Jec discloses everything claimed as implemented above (see claim 2). In addition, Jec discloses that judging that the CAI changes if at least one UE joins the downlink timeslot; allocating spreading code resource to the UE; wherein the changed CAI of inserting is the CAI after the spreading code resource is allocated (**Para 0016, where Jec discloses that the base station has knowledge of allocated spreading codes, receiver knows spreading codes and channel profiles**).

Consider **claim 5**, Jec discloses everything claimed as implemented above (see claim 2). In addition, Jec discloses that judging that the CAI changes if the spreading code resource in the downlink timeslot is reallocated to realize optimized configuration of the resource in the downlink timeslot; wherein the changed CAI in of inserting is the CAI after the spreading code resource is reallocated (**Para 0015-0016, where Jec**

**discloses that the base station has knowledge of allocated spreading codes, , receiver knows spreading codes and channel profiles).**

Consider **claim 6**, Jec discloses everything claimed as implemented above (see claim 2). In addition, Jec discloses that the specific control information allows each UE in the downlink timeslot to perform one of the two JD methods of ZF-BLE and MMSE-BLE (**Para 0015, where Jec discloses that JD (joint detection) is employed to retrieve the user's signal**).

**Claim 7**, as analyzed with respect to limitations as discussed in claim 1.

**Claim 8**, as analyzed with respect to limitations as discussed in claim 2.

**Claim 9**, as analyzed with respect to limitations as discussed in claim 6.

**Claim 16**, as analyzed with respect to limitations as discussed in claim 1.

**Claim 17**, as analyzed with respect to limitations as discussed in claim 2.

**Claim 18**, as analyzed with respect to limitations as discussed in claim 3.

**Claim 19**, as analyzed with respect to limitations as discussed in claim 1.

**Claim 20**, as analyzed with respect to limitations as discussed in claim 2.

6. **Claims 10-15, 21-24 are rejected under 35 U.S.C. 102(b) as being anticipated by Jechoux et al. (EP 1143638 A1), hereinafter referenced as Jec.**

Consider **claim 10**, Jec teaches a method for supporting downlink single-user JD in a TDD CDMA communication network system (**Para 0014, where Jec discloses that JD (joint detection) is employed to retrieve the user's signal**). Jec further discloses judging whether the ACN (active code number) in a downlink timeslot will change in the next TTI (**Para 0015, where Jec discloses that the base station has**

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**knowledge of all the spreading codes, therefore judging whether the ACN (active code number) in a downlink timeslot will change in the next TTI); inserting the changed ACN as a specific control information into a specified field in the traffic burst in downlink timeslot corresponding to current TTI if the ACN will change (Para 0017, where Jec discloses that in communicating to each mobile station all spreading codes which are currently used by all users' signals present in one particular timeslot and signaling is done fast with only marginal delay i.e. the mobile stations adjusting to the signaling environment accordingly); sending the traffic burst containing the specific control information to each UE in the downlink timeslot via downlink channel (Para 0014, 0015, where Jec discloses that the base station has knowledge of all the spreading codes, receiver knows spreading codes and channel profiles).**

Consider **claim 11**, Jec discloses everything claimed as implemented above (see claim 10). In addition, Jec discloses that the network system sends the initial ACN to the UE when the network system establishes connection with the UE **(Para 0014, 0015, where Jec discloses that the base station has knowledge of all the spreading codes, receiver knows spreading codes and channel profiles).**

Consider **claim 12**, Jec discloses everything claimed as implemented above (see claim 11). In addition, Jec discloses that the specific control information allows each UE in the downlink timeslot to perform an MMSE-BLE-SD JD algorithm **(Para 0014, where Jec discloses the joint detection algorithm).**

**Claim 13**, as analyzed with respect to limitations as discussed in claim 10.



**Claim 14**, as analyzed with respect to limitations as discussed in claim 11.

**Claim 15**, as analyzed with respect to limitations as discussed in claim 12.

**Claim 21** as analyzed with respect to limitations as discussed in claim 10.

**Claim 22**, as analyzed with respect to limitations as discussed in claim 11.

**Claim 23**, as analyzed with respect to limitations as discussed in claim 10.

**Claim 24**, as analyzed with respect to limitations as discussed in claim 11.

### ***Conclusion***

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BABAR SARWAR whose telephone number is (571)270-5584. The examiner can normally be reached on MONDAY TO FRIDAY 09:00 A.M -05:00 P.M.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, NICK CORSARO can be reached on (571)272-7876. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/BS/

/BABAR SARWAR/  
Examiner, Art Unit 2617

/NICK CORSARO/

Supervisory Patent Examiner, Art Unit 2617

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